Amendments to the Claims

Kindly amend claims 3, 6, 7, 10, 13, 14, 17 & 20 and cancel claims 1, 2, 4, 5, 8, 9, 11, 12, 15, 16, 18 & 19 as set forth below. All pending claims are reproduced below, with changes in the amended claims shown by underlining (for added matter) and strikethrough/double brackets (for deleted matter).

1. Canceled.

2. Canceled.

3. (Currently Amended) The method of claim [[2]] 6, wherein said obtaining vertical filter coefficients comprises dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

4. Canceled.

5. Canceled.

6. (Currently Amended) ~~The method of claim 5,~~ A method of filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said method comprising:

prior to MPEG compression encoding of the video frames, obtaining pixel values of the video frames of the sequence of video frames;

programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding, said programmably vertically filtering comprising obtaining vertical filter coefficients for use in vertically filtering said pixel values, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients, and wherein the programmably vertically filtering further comprises:

separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients;

merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components; and

further comprising performing at least one of said vertically filtering luminance components of said pixel values and said vertically filtering chrominance components of said pixel values, as follows:

vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1,L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

7. (Currently Amended) The method of claim [[2]] 6, wherein said vertical filter coefficients are dynamically programmable per video frame of the sequence of video frames for enhancing video encoding of the sequence of video frames.

8. Canceled.

9. Canceled.

10. (Currently Amended) The system of claim [[9]] 13, wherein said means for obtaining vertical filter coefficients comprises means for dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

11. Canceled.

12. Canceled.

13. (Currently Amended) ~~The system of claim 12,~~ A system for filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said system comprising:

means for obtaining, prior to MPEG compression encoding of video frames, pixel values of the video frames of the sequence of video frames;

means for programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding, said means for programmably vertically filtering comprising means for obtaining vertical filter coefficients for use in vertically filtering said pixel values, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients, and wherein said means for programmably vertically filtering further comprises:

means for separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

means for vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and for vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients;

means for merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components; and

further comprising means for performing at least one of said means for vertically filtering luminance components of said pixel values and said means for vertically filtering chrominance components of said pixel values, as follows:

means for vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1,L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

means for vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

14. (Currently Amended) The system of claim [[9]] 13, wherein said vertical filter coefficients are dynamically programmable per video frame of the sequence of video frames for enhancing video encoding of the sequence of video frames.

15. Canceled.

16. Canceled.

17. (Currently Amended) The at least one program storage device of claim [[16]] 20, wherein said obtaining vertical filter coefficients comprises dynamically obtaining via a host interface new vertical filter coefficients during said programmably vertically filtering of pixel values.

18. Canceled.

19. Canceled.

20. (Currently Amended) ~~The at least one program storage device of claim 19,~~ At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of filtering pixels of video frames of a sequence of video frames for facilitating video encoding thereof, said method comprising:

prior to MPEG compression encoding of the video frames, obtaining pixel values of the video frames of the sequence of video frames; and

programmably vertically filtering noise from said pixel values of said video frames prior to said MPEG compression encoding, said programmably vertically filtering comprising obtaining vertical filter coefficients for use in vertically filtering said pixel values, wherein said vertical filter coefficients comprise at least two programmable luminance filter coefficients and at least two programmable chrominance filter coefficients, and wherein the programmably vertically filtering further comprises:

separating luminance components and chrominance components of said pixel values in a vertical filter buffer;

vertically filtering luminance components of said pixel values using said at least two programmable luminance filter coefficients and vertically filtering chrominance components of said pixel values using said at least two programmable chrominance filter coefficients;

merging filtered luminance component data and filtered chrominance component data after said vertically filtering of luminance components and said vertically filtering of chrominance components; and

further comprising performing at least one of said vertically filtering luminance components of said pixel values and said vertically filtering chrominance components of said pixel values, as follows:

vertically filtering luminance components of said pixel values by determining filtered luminance component data using:

$$Lum\ (filtered) = \frac{L_1Pl_1 + L_2Pl_2 + L_3Pl_3 + L_4Pl_4}{256}$$

where:

Lum(filtered)= a filtered pixel luminance component,

L_1,L_2, L_3, L_4 = programmable luminance filter coefficients,

Pl_1, Pl_2, Pl_3, Pl_4 = luminance component data for vertical pixels P_1, P_2, P_3, P_4 prior to vertical filtering; and

vertically filtering chrominance components of said pixel values by determining filtered chrominance component data using:

$$Chr\ (filtered) = \frac{C_1Pc_1 + C_2Pc_2 + C_3Pc_3 + C_4Pc_4 + C_5Pc_5}{256}$$

where:

Chr(filtered) = a filtered pixel chrominance component,

C_1, C_2, C_3, C_4, C_5 = programmable chrominance filter coefficients, and

Pc_1, Pc_2, Pc_3, Pc_4, Pc_5 = chrominance component data for vertical pixels P_1, P_2, P_3, P_4, P_5 prior to vertical filtering.

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